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ABSTRACT

Learning style based education (LSBE) is an instructional approach which forms the basis for a new teaching technique, learning style informed instruction (LSII). LSBE is a special form of individualized instruction in which the instructional decisions teachers make about specific students are heavily influenced by knowledge of the characteristic cognitive, affective, and physiological behaviors that serve as relatively stable indicators of how learners perceive, interact, and respond to the learning environment. LSII is a form of instruction in which teachers collect and make use of learning style data on their students (collected by learning style instruments and/or teacher observations) only when they consider it sensible to do so. This allows teachers to match their own teaching style with their students' learning style without attempting to create optimal matches between all relevant characteristics of all students at all times. A description is given of how this synthesis approach is currently being employed in a course for prospective elementary school teachers. Included in this discussion is a copy of the Learning Style/Teaching Style Analysis Worksheet, which is used by student teachers to clarify their understanding of their own cognitive style and that of their pupils. (JD)

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Learning Style and Teaching Style Analysis In the Teacher Education Curriculum: A Synthesis Approach

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by

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ABSTRACT

This paper presents a detailed description of a synthesis approach to presenting learning and teaching style related concepts to pre-service teacher candidates. A rationale for using this specific approach is included, along with a copy of the Davidman Learning and Teaching Style Analysis Worksheet which is:

(a) a key element in the synthesis approach;

(b) an instrument for collecting learning/teaching style information from pre-service candidates; and

(c) uncopyrighted, that is, in the public domain,

Definitions of learning style based education (LSBE) and learning style informed instruction (LSII) are also provided.

LEARNING STYLE AND TEACHING STYLE ANALYSIS IN THE TEACHER EDUCATION CURRICULUM: A SYNTHESIS APPROACH

In the 1970s a new and challenging form of individualized instruction began to take shape. Elsewhere, (Davidman, 1981; Chiarelott and Davidman, 1983) I have called this new approach to instruction "learning style based education" (LSBE), and in this essay I will discuss the rationale, and a strategy, for introducing this form of instruction to pre-service teacher candidates. However, before discussing this rationale and strategy, there are several observations and points which when presented will provide the necessary foundation for the above mentioned discussion.

Point one is that there are numerous interesting definitions of learning style available in the literature (Dunn and Debello, 1981; Davidman and Chiarelott, 1984), and therefore there are at least several useful ways to define "learning style" and LSBE. In this paper I will be working with James Keefe's definition of learning style which posits that "Learning styles are characteristic cognitive, affective, and physiological behaviors that serve as relatively stabile indicators of how learners perceive, interact, and respond to the learning environment." (Keefe, 1979) In addition, when I use the acronym LSBE I will be denoting a special form of individualized instruction wherein the instructional decisions teachers make about specific students are heavily influenced by learning style data collected by one or more learning style instruments and/or teacher observations. A variation of LSBE is worth mentioning because the "synthesis

approach to learning and teaching style analysis", which this paper is largely about, falls closer to the variation than LSBE itself. I call this variation "learning style informed instruction" (LSII), and it is a form of instruction wherein teachers collect and make use of learning style data only when they consider it sensible to do so. In this perspective learning style data is one of several factors which shape instruction, rather than the most important type of data (Hyman & Rosoff, 1984).

A second point worth noting is that there are "vastly" different opinions about the value which LSBE holds for practitioners, and to confuse the issue further, both sides of the argument are informed by recently conducted research (1970-1884). A recent issue of Theory Into Practice, which focused on the issue, or value, of matching students' learning styles to teachers' teaching styles, displayed the lack of consensus rather clearly. On the one hand, several authors presented data to illustrate that LSBE was a very successful and practical form of instruction (Dunn, 1984; Friedman and Alley, 1984), and this point of view coincided with the conclusion shared by Cotterell in an earlier review of the matching literature (1982). Presenting data to the contrary were Doyle and Rutherford (1984) and Hyman and Rosoff (1984). In this debate I fall closer to the advocacy position, but as I do so I want to note that one can have learning style informed instruction "without" matching learning styles and teaching styles. In other words, the realm of LSII is larger than the notion of matching; one can make good, sensible, productive use of learning style data without attempting to create optimal matches between all relevant characteristics of all students with one teacher whose teaching style and sanity will obviously have limits. A teacher can maintain much of her teaching style, at the same time that

she attempts to modify selected characteristics in the learning environment. In this instance LSII is created by matching learning environment characteristics to student preferences. So, to reiterate, a teacher can maintain her dominant teaching strategies and still be engaged actively in LSII.

All of these distinctions are important because there is good evidence to support the generalization that students will, sometimes, learn more efficiently when the learning environment is made more congruent with their learning styles or preferences. This "sometimes", in my opinion, is enough times to warrant further LSII research, as well as exposure within the pre-service teacher education curriculum. For example, analysis of learning style data from K-13 gifted and talented students and reading and math underachievers, indicates that these groups have consistent instructional preferences and needs which are not being sufficiently attended to by traditional forms of non-individualized instruction (Dunn, 1983a). In addition, Murrain (1983), Pizzo (1981), and Virostko (1983), among others, have demonstrated that the manipulation of environmental variables (temperature, sound, and time) will significantly affect student achievement. With this growing data base in mind, I strongly believe that pre-service teacher candidates should receive information about LSBE and LSII. And, I might add that there is also extensive ethnographic data to support this position.

But, what information should be shared? And, how should it be delivered? With regard to the *what* there are several useful competing conceptions of, and approaches to, learning style which professors of education can choose from,[1] and these alternatives have been discussed in a series of articles and reports by Leigh Chiarelott and Leonard Davidman (1981, 1983, and 1984). In addition, materials provided by the *Center for the Study of Learning and*

Teaching Styles, most notably their excellent, continually updated, bibliography and their list of available learning style instruments, will quickly place the reader in touch with a variety of learning style conceptions and approaches (Freeley, 1983).

A review of the above cited material will introduce professors of education, etc., to the learning style conceptions and approaches delineated by: Renzulli and Smith; Dunn, Dunn, and Price; Manual Ramirez III; David Hunt and others; and, all of these have merit for selected K-12 populations and circumstances. But, because of the variety of material available, the professor of education who wishes to share learning style information with pre- or in-service teachers will have to make some fundamental decisions about what to include and what to exclude. Fortunately, the literature on learning style(s) provides some help. At the present time, the literature appears to suggest that there are at least three ways to share learning style information with educators. First, there is the idea of a workshop or course which focuses on one *pure* approach and leaves the students fully capable of knowledgeably implementing one approach to LSBE or LSII. A set of articles written by Rita Dunn provides a good example of this pure single conception approach (1982, 1983b, c, d). An alternative to the single conception approach is the synthesis approach, and the latter has been defined by Chiarelott and Davidman (1983b) as "an approach which draws on several or more competing conceptions of LSBE to create an eclectic approach designed to fit a particular instructional niche." A third approach to sharing learning style information would involve a combination of the single conception and synthesis approach.

While the single conception approach understandably has clear models and advocates, the synthesis approach, which assumes that many instructional situations will benefit from a flexible eclectic approach to LSII, has a logic of its own. To illuminate this logic as well as the concept of a "synthesis approach" to LSII, a synthesis approach currently emplcyed by the author in a required elementary teacher education course, "Organization and Management in the Elementary School" (Ed 411), will be described, and then the *Learning Style/Teaching Style Analysis Worksheet* which is the key element in the approach will be shared and briefly discussed.

To begin with, the following sentence delineates three key objectives in the course:

At the completion of this course, students will be better able to:

1. *identify and describe their learning and teaching style;*
2. *identify the learning style(s) of their students; and*
3. *use the knowledge about their own learning and teaching style and the learning style(s) of students to improve the behavior and learning of selected students.*

In considering the evolution of the strategy that was developed to achieve these course objectives in my instructional niche, it is noteworthy that: my university operates on a ten week quarter system; the maximum number of students allowed in Ed 411 is twenty-four; all Ed 411 students are doing part-time student teaching (four hours daily); the instructor was partial to certain aspects of a learning style workshop approach developed by David Hunt of the Ontario Institute of Educational Studies; and the instructor wanted to provide in-depth exposure to more than one conception of learning style. The key point there is that the synthesis approach which emerged was designed to fit a specific instructional niche. If any

of these factors had been different, i.e., a sixteen week semester with a class size limit of fifty, a synthesis approach different from the one to be described would have emerged.

The Seven Step Synthesis Approach

The above-mentioned factors, and a few others, were present, and together they helped to shape a strategy which incorporates elements from the Renzulli/Smith conception of learning style and teaching style, the Dunn, Dunn, and Price conception, the David Hunt approach to stimulating learning style/teaching style dialogue among teachers, and new elements which stem from the theorizing of Chiarelott and Davidman. More specifically, the synthesis approach to LSII which I employ involves the following steps:

1) Students receive a lecture which covers the Renzulli/Smith and Dunn, Dunn, and Price conceptions of learning style/teaching style in great detail. (The Dunn, Dunn, and Price as well as the Renzulli/Smith conceptions of learning style are quite different but both have a clear logic, and they work well together in providing a well rounded frame of reference for filling out the *Learning Style/Teaching Style Analysis Worksheet* (see below). The Renzulli/Smith conception focuses on teaching strategies while the Dunn, Dunn, and Price conception incorporates a wide range of variables which affect the way learners concentrate on, absorb, and retain new or difficult information and skills. These variables are environmental, sociological, physical, and psychological in nature.

2. Students receive a lecture which underlines the reasons why elementary and secondary teachers and university professors should be knowledgeable about learning and teaching style conceptions. (These

reasons are various in nature. They include: (a) there is an increasing body of research which shows that when you accomodate, or flex, to students preferences and needs, scores and school satisfaction will increase, and (b) the elements in candidates' teaching style(s) are *their* tools of the trade, and they should want to keep their tools sharp, and therefore should want to perceive their teaching style clearly.)

3) Students complete the Davidman Learning Style/Teaching Style Analysis Worksheet after studying a worksheet completed by the instructor.[2]

4) The students' responses are analyzed and classified to form a class summary sheet which is shared and discussed with the class.

5) The instructor initiates a discussion about (1) the specific ways (s)he intends to modify class content and organization to accomodate specific instructional preferences and needs, and, (b) the specific adaptations that students can make to maximize their learning in the course.

6) Students are exposed to a third learning style instrument, which, while less rigorous in design than the Renzulli/Smith and Dunn, Dunn, and Price instruments, is in the public domain and therefore free (Babich; Friedman & Alley, 1984).

7) Students read selected learning style essays, and have discussions about: two other major approaches to instruction, *direct instruction* and *facilitative instruction;*[3] synthesis approaches which integrate direct and facilitative instruction; their own emerging teaching styles; and the idea of approaching LSII patiently and cautiously, one step at a time.

For a variety of reasons, this seven step strategy has been quite successful in terms of: 1) stimulating a vigorous dialogue about learning and teaching style analysis; b) helping the instructor find out about important student preferences and needs early in the quarter (by week #3); and c) establishing a desirable rapport between instructor and students in what for them is sometimes a difficult quarter (beginning student teaching).

Because the *Learning Style/Teaching Style Analysis Worksheet* is the cornerstone of the synthesis approach described above, it will be shared below, and then discussed briefly.

THE LEARNING STYLE/TEACHING STYLE ANALYSIS WORKSHEET

INSTRUCTIONS:

Before you begin filling in this worksheet try to specifically identify some of the best and worst learning experiences you've had in the past five or so years. Then as you complete these sentences use these learning experiences as a source of data. In addition, for #'s 1 through 3, think about school and home learning environments, paying particular attention to the teacher's strategies, structure of the class, and any cognitive, affective, or environmental variables which you consider pertinent. Use the back of the page if you need more room, and please refer to the Dunn/Price, Renzulli/Smith, and Keefe material as you complete this form. Answer #8 & 9 only if you have had teaching experience.

1. I learn new and/or difficult information best when:[4]
   a) _____
   b) _____

2. I have trouble learning new and/or difficult information when:
   a) _____
   b) _____

3. I find it VERY helpful to my learning if the learning environment is, or has:
   a) _____
   b) _____

4. When I study, whether at home or school, I like to:

   a) _____

   b) _____

5. The way I learn is probably like that of others in many ways, but I think it may be special because I:

   a) _____

   b) _____

6. Between elementary school and today, my learning style preferences/needs have:

   ☐ remained pretty much the same

   ☐ changed moderately (please describe the change(s) below)

   ☐ have changed a great deal (please describe the change(s) below)

   _____

   _____

7. Given my particular learning style needs and preferences and the current organization of this course, I would welcome your consideration of the following changes in course structure to the extent that such changes are feasible:

   _____

   _____

   If any of these changes are feasible, I would:

   ☐ prefer to discuss them privately

   ☐ feel comfortable if they were discussed in class

8. Regarding my teaching style, in my teaching I tend to make good use of the following teaching strategies (or would if the resources were available). Put an X in the boxes in front of the appropriate strategies, and please fill in your own strategies if they are not here.

   ☐ Discussion

   ☐ Lecture (or mini-lectures)

   ☐ Drill and Recitation

   ☐ Programmed Instruction

   ☐ Games

   ☐ The Project Approach

(continued on next page)

- ☐ Computer Assisted Instruction
- ☐ Independent Study
- ☐ Simulations
- ☐ Directed Reading
- ☐ Learning Centers
- ☐ _____
- ☐ Peer Tutoring
- ☐ Direct Instruction
- ☐ Discovery Learning
- ☐ Listening Posts
- ☐ _____
- ☐ _____

9. Regarding a possible connection between my current learning style preferences and/or needs and current "dominant" teaching style, at this point I:

- ☐ see no relationship
- ☐ see one or more possible connections (please describe)

_____

_____

Discussion

One of the important advantages of this strategy stems from Step #5 of the seven step strategy where I can show my pre-service candidates that, to some extent, I can flex to their learning preferences and needs even in the fairly rigid academic environment provided by the university. If my students experience this attempt to flex as a constructive measure, then they will probably be more inclined to flex to (a) their students' important preferences and needs and (b) my course structure. The data and preferences to which I cannot flex are also useful. For example, one student wrote that she has trouble learning when: a) it is the afternoon; b) she's lectured at; and c) reading assignments are not discussed in class. Well, that quarter my class met from 3:00-5:00 p.m., and I did a lot of lecturing and could not go

over all the assigned reading and didn't want to. But, at least I know early on in the quarter that this was instructionally frustrating for one of my students, and after making light of it in class. the student and I were able to do some serious cooperative planning and compromising during my office hour. In another class a student wrote that she disliked the intimate, tight-knit, circle format which I use for discussions and ethnic self-disclosure. Again, discussion and compromise and my awareness of this attitude prevented unnecessary student discomfort.

These experiences help to explain why I believe this synthesis approach to LSII is worthy of more experimentation and refinement by professors of education. But, as suggested earlier, there are other reasons why pre-service teacher candidates would benefit from learning about LSII via this approach. For example, with this approach students do get a chance to perceive their instructor as a learner as well as a teacher (see step #3), and this might encourage them to reveal themselves as learners to their future students. In addition, some disabled students or students with minimal learning disabilities may find that the worksheet provides a sensitive, private way to share information about a learning disability. And, finally, and most importantly, this approach, indeed all approaches to LSBE and LSII, reinforce three related ideas about teaching: first, that teachers, to the extent feasible, should strive to achieve their instructional objectives in a setting which is congruent with students' learning preferences and needs; second, that such congruent settings will most likely be comfortable and satisfying for learners; and, third, that it is "good" for the setting to be comfortable and the learning experience satisfying. Student teachers, armed with such ideas, are more likely to become teachers who

develop in students the liberal attitude that learning is not merely a pragmatic career oriented activity, but rather a lifelong pursuit, a way of living life more fully. Hopefully, these reasons, and the above materials, will serve as a catalyst and foundation for professors who may be interested in developing their own approaches to learning style informed education, or perhaps in working with other colleagues to develop a computer-based program wide approach to the collection and utilization of learning style data. The latter is a logical next step for a teacher education program where several professors are interested in having access to learning style, etc., data prior to, or just after, the beginning of a new semester.[5]

END NOTES

1. A *conception* of learning style consists of the theorist's definition of learning style, but also includes the theorists's larger, and emerging perspective on learning style. The theorist's *approach* to learning style refers to all the diagnostic procedures, and instructional prescriptions and materials with which the theorist attempts to relate the conception to instructional practice.

2. The worksheet that I call the Davidman *Learning Style/Teaching Style Analysis Worksheet* in my class is based on a worksheet and strategy developed by David Hunt of the Ontario Institute for Studies in Education. At lease one-half of the items on this worksheet stem from David Hunt's prior research and staff development efforts, and another component is based on the content in the Renzulli/Smith Learning Styles Instrument.

3. C. M. Charles (1983) lists the following strategies as characteristically direct: *expository teaching, diagnostic-prescriptive teaching, read-review-recite modeling,* and *competency based education,* while the following are considered to be facilitative methods: group process, projects, inquiry/discover, simulations, open experience.

4. The worksheet used in my classes leaves three times as much room for each item. Also, readers are encouraged to utilize, modify, and experiment with this worksheet.

5. I would be pleased to correspond with readers desiring further information. Address mail to: Leonard Davidman, Education Department, California Polytechnic State University, San Luis Obispo, CA 93407.

REFERENCES

Babich, A.M.; Burdine, P.; Albright, L.; and Randol, P. (n.d.) *The Murdock Teacher Center Learning Style Instrument.* Wichita, Kansas, The Murdock Teacher Center, 607 North Edgemoore, Kansas 67208.

Charles, C. M. (1983) *Handbook of Excellence in Teaching: Elementary Classroom Management.* New York, Longman, Inc. pp. 120-121.

Chiarelott, L. and Davidman, L. (1983) Learning Style Inventories: Implications for Curriculum and Instruction, *ERIC ED # 231840,* April 1983.

Cotterell, J. L. (1982) Matching Teaching to Learners: A Review of a Decade of Research, *Psychology In The Schools,* Vol. 19, 106-112.

Davidman, L. (1981) Learning Style: The Myth, The Panacea, The Wisdom, *Phi Delta Kappan* 62 (9).

Davidman, L. and Chiarelott, L. (1984) Analyzing Diverse Learning Style Conceptions and Approaches: A Synthesis of Learning Style Informed Education, unpublished manuscript.

Doyle, W. and Rutherford, B. (1984) Classroom Research on Matching Learning and Teaching Styles, *Theory Into Practice,* Vol. 23, No. 1, 20-25.

Dunn, R. (1982) Would You Like to Know Your Learning Style? *Early Years,* Vol. 13, No. 2, October 1982.

Dunn, R. (1983a) Learning Style and Its Relation to Exceptionality at Both Ends of the Spectrum, *Exceptional Children,* 49 (6), 501.

Dunn, R. (1983b) You've Got Style: Now's the Time to Find Out What It Is, *Early Years*, Vol. 13, No. 5, January 1983.

Dunn, R. (1983c) Now That You Know Your Learning Style: How Can You Make the Most of It? *Early Years*, Vol. 13, No. 6, February 1983.

Dunn, R. (1983d) Now That You Understand Your Learning Style..What Are You Willing to Do to Teach Your Students Through Their Individual Styles? *Early Years*, Vol. 7, March 1983.

Dunn, R. (1984) Learning Style: State of Science, *Theory Into Practice*, Vol. 23, No. 1, 10-19.

Dunn, R. and Debello, T. (1981) Learning Style Researchers Define Differences Differently, *Educational Leadership*, Vol. 38, No. 5 , 60-62.

Freeley, M.E. (1983) *The Learning Style Instrument Classification System*, Learning Styles Network, St. John's University, Grand Central Parkway, Jamaica, New York, 11439.

Friedman, P. and Alley, R. (1984) Learning/Teaching Styles: Applying the Principles, *Theory Into Practice*, Vol. 23, No. 1, 77-81.

Hyman, R. and Rosoff, B (1984) Matching Learning and Teaching Styles: The Jug and What's In it, *Theory Into Practice*, Vol. 23, No. 1, 35-43.

Keefe, J. W. (1979) Learning Style: An Overview. In *Student Learning Styles: Diagnosing and Prescribing Programs*. Reston, VA: National Association of Secondary School Principals, 1-17.

Murrain, P. (1983) Administrative Determination Concerning Facilities Utilization and Instructional Grouping: An Analysis of the Relationship(s) Between Selected Thermal Environments and Preferences for Temperature, an Element of Learning Style, as They Affect the Word Recognition Scores of Secondary School Students, unpublished Doctoral Dissertation, St. John's University.

Pizzo, J. (1981) An Investigation of the Relationships Between Selected Acoustic Environments and Sound, an Element of Learning Style, as They Affect Sixth Grade Students' Reading Achievement and Attitudes, unpublished Doctoral Dissertation, St. John's University.

Virostko, J. (1983) An Analysis of the Relationships Among Student Academic Achievement in Mathematics and Reading, Assigned Instructional Schedules, and the Learning Style Time Preferences of a New York, Suburban School's Third, Fourth, Fifth, and Sixth Grade Students, unpublished Doctoral Dissertation, St. John's University.